Managing Rational Use of Medicines

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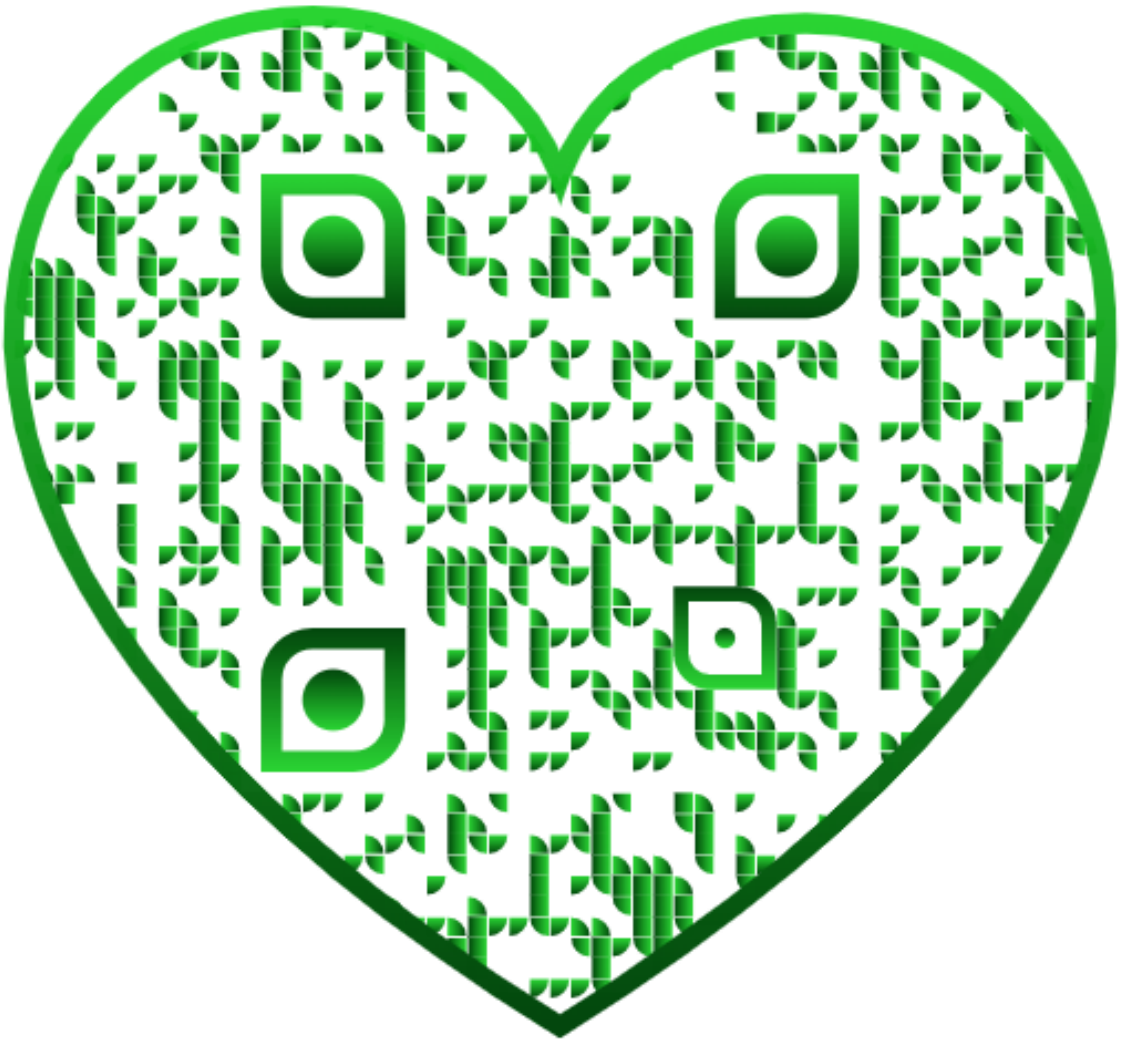


Chapter Objectives

- Upon completion of this chapter, students will be able to:
  - Describe medicine use process
  - Explain the basic concepts of rational use of medicines
  - Describe causes of irrational use of medicines
  - State the impact of irrational use of medicines
  - Discuss the interventions strategies to promote rational use of medicines

Medicine use process

- Medicine use is the process of prescribing, dispensing and patient use.

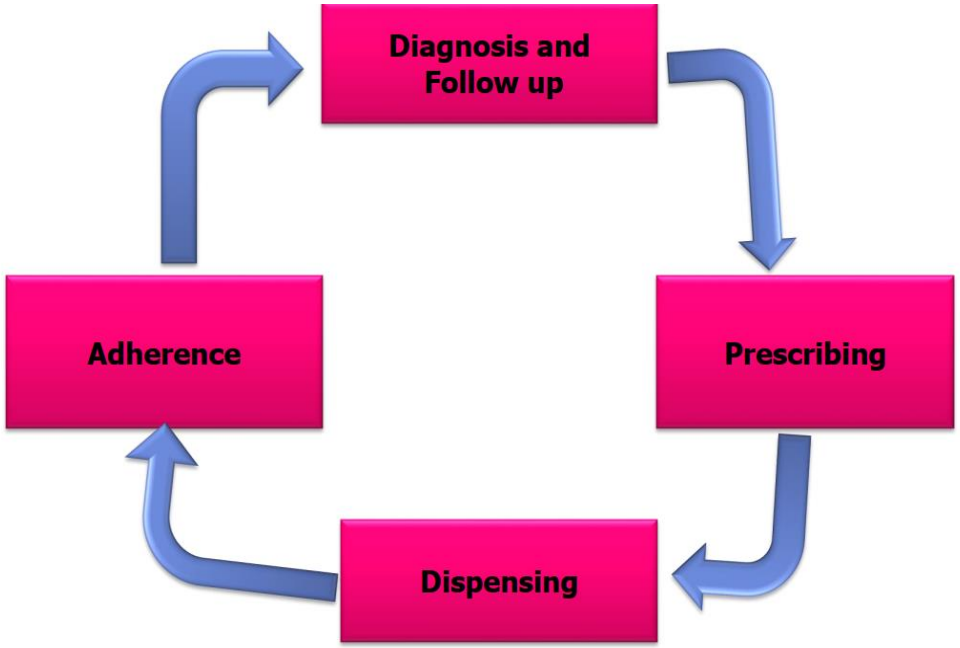


Figure 1: The medicine use process cycle

Rational Use of medicine

- Rational use of medicines requires that ;
  - Patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community
- Rational drug use in a biomedical context (criteria):
  - Correct drug with appropriate indication (prescribe on sound medical considerations)
  - Appropriate drug, considering efficacy, safety, suitability for the patient, and cost
  - Appropriate dosage, administration, and duration of treatment
  - Appropriate patient with no contraindications, and with minimal adverse reactions
  - Correct dispensing, including appropriate information for patients about the medicines
  - Patient adherence to treatment

Rational Use of medicine

- For rational drug use all of the following four criteria should be considered;
  - Safety
  - Effectiveness
  - Appropriateness and
  - Economics (cost-effectiveness)

Components of Rational Drug Use

- Rational drug use is promoted by:
  - **1. Rational prescribing practice**
    - Good diagnosis practice
    - Good prescribing practice
  - **2. Rational dispensing practice**
    - Good dispensing practice
    - Good stock management practice
  - **3. Rational patient use**
    - Patient adherence/compliance

Irrational use of medicines and examples

- **Irrational use of medicines**
  - Get medications inappropriate to their clinical conditions,
  - Doses not that meet their requirements for the desired period
- Irrational use of drugs may occur either due to;
  - Irrational Prescribing,
  - Irrational dispensing, and
  - Irrational patient use
- Irrational use of medicines is a major problem worldwide
  - WHO estimates that more than half of all medicines are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take them correctly.

Irrational use of medicines…

- Overuse, underuse or misuse of medicines results in;
  - wastage of scarce resources
  - Widespread health hazards.
- Examples of irrational use of medicines include:
  - Use of too many medicines per patient ("poly-pharmacy")
  - Inappropriate use of antimicrobials, often in inadequate dosage, for non-bacterial infections;
  - Over-use of injections when oral formulations would be more appropriate;
  - Failure to prescribe in accordance with clinical guidelines;
  - Inappropriate self-medication, often of prescription-only medicines;
  - Non-adherence to dosing regimens

Types of irrational drug use

- **1. Irrational Prescribing**:
  - Either the diagnosis or the treatment prescribed or both of them are wrong/ inappropriate as compared to appropriate standards of treatment
- **Examples of irrational Prescribing:**
  - Extravagance
  - Over-prescribing
  - Incorrect prescribing
  - Multiple- prescribing
  - Under-prescribing

Types of irrational drug use…

- 2. **Irrational dispensing practice**
  - Poor prescription review /interpretation,
  - Occasional dispensing of drug to wrong patient
  - Substitution of prescribed drug (of different chemical entity/ dosage form) without the consent of the prescriber,
  - Dispensing in unhygienic condition/ materials,
  - Dispensing without clear verbal, written information and inadequate counseling time,
  - Poor stock storage,
  - Poor inventory control and stock management
  - Dispensing of prescription drugs without prescription

Types of irrational drug use…

- **3. Irrational use of drugs by patients**
  - **Compliance:**
    - The degree to which patients' behaviors (e.g., attending follow-up appointments, engaging in preventive care, following recommended medical regimens) correspond with the professional medical advice prescribed.
  - **Common Types of Poor Compliance**
    - Failure to take medication as prescribed:
    - Not taking prescribed drugs at all,
    - Reducing the dose, taking extra dose and
    - Premature discontinuation

Causes of irrational use of medicines

- Many different factors affect the irrational use of drugs
- Major forces can be categorized as those deriving from;
  - Patients
  - Prescribers
  - Workplace and
  - Supply system, and
  - Combinations of these factors.

Causes of irrational use of medicines…

- **Prescribers:**
  - Lack of objective drug information
  - Generalization of limited experience
  - Misleading beliefs about drug efficacy
  - Lack of skill or conscientiousness
  - Inadequate supervision, and
  - Lack of education and training

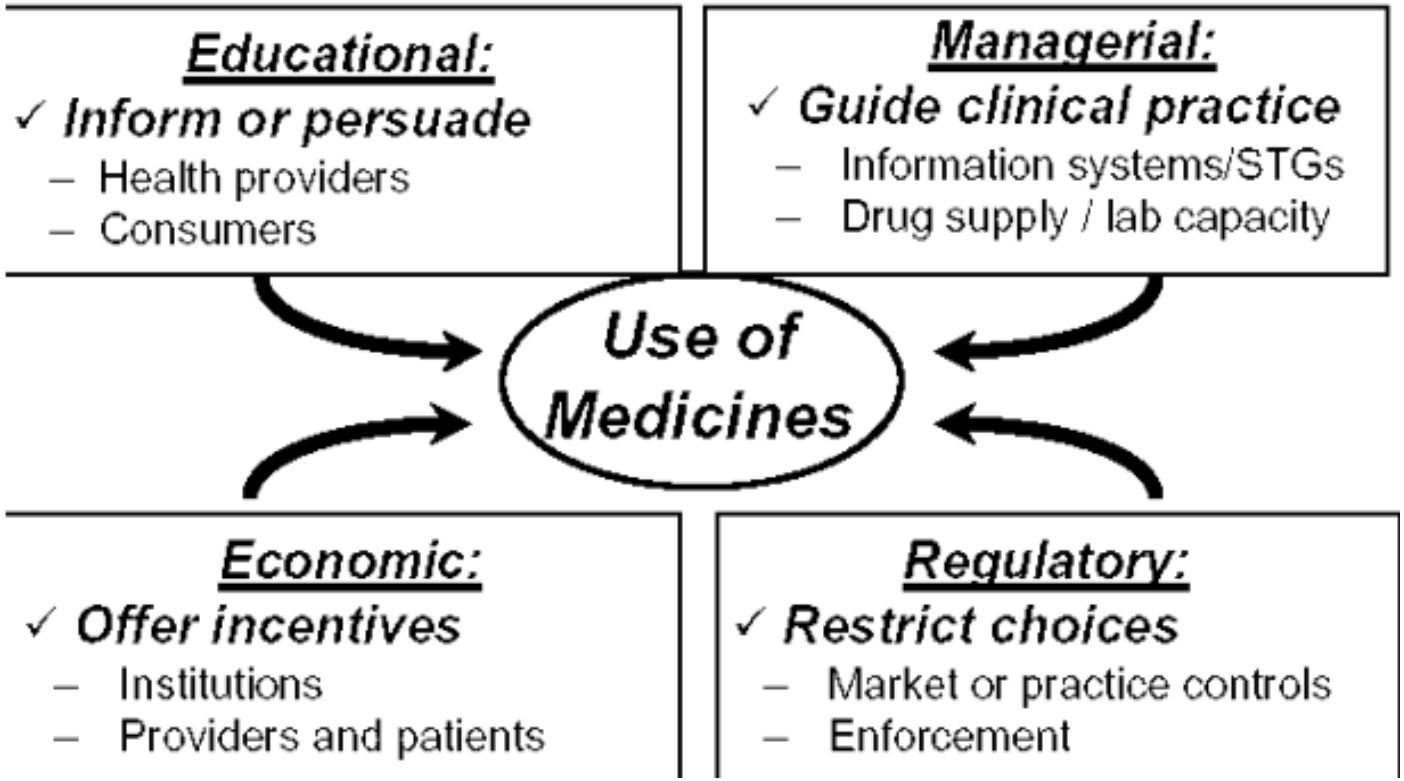
Causes of irrational use of medicines…

- **Dispensers:**
  - Insufficient training and staffing,
  - lack of equipment and facilities,
  - Lack of packaging materials,
  - Poor attitude about dispensing,
  - Inability to interpret a prescription
- **Patients:**
  - Misleading beliefs
  - Patient demands/expectations
  - No labeling or no understandable labeling
  - Inadequate verbal instructions
  - Complex treatment regimen or long, duration,
  - Presentation of treatment, drug misinformation

Impacts of irrational medicine use

- **Reduction in the quality of drug therapy and overall quality of health care**
  - Increased morbidity and mortality.
- **Waste of resources**
  - Reduced availability of other vital drugs and increased
- **Increased risk of unwanted effects**
  - ADRs and emergence of drug resistance,
- **Psychosocial impacts,**
  - Patients come to believe that there is **a pill for every illness**

Strategies to promote rational use of medicines



Role of pharmacy personnel in promoting rational drug use

- Promoting rational prescribing practices
- Patient and community education